

STOCHASTIC LOCAL SEARCH FOR COMBINATORIAL AUCTIONS

ABSTRACT OF THE DISCLOSURE

A method of selecting a winning allocation of bids in a combinatorial auction includes receiving a plurality of bids and designating a subset of the received bids as a current allocation having no overlap in the items of its bids. For each bid not part of the current allocation, a neighboring allocation is determined by combining the bid with the current allocation and deleting from such combination any bid of the current allocation having an item that overlaps an item of the bid combined with the current allocation. A heuristic is determined for each neighboring allocation and one of the neighboring allocations is selected stochastically or based on its heuristic. If this one neighboring allocation is greater than the value of the best allocation, the current allocation is substituted for the best allocation.